ORDER NO. MD0512483C3

Service Manual

CD Stereo System

SA-AK340EE

Colour

(S)... Silver Type

Remote Control SB-AK340 SA-AK340 SB-AK340

Notes: This model's CD mechanism changer unit is CRS1. Please refer to the original Service Manual (Order No. MD0509368C0) for this mechanism.

Specifications

n AMPLIFIER SECTION

RMS Output Power	
THD 10%, both channels driven	
1 kHz	
(Low channel)	105 W per channel (3 Ω)
10 kHz	
(High channel)	105 W per channel (3 Ω)
Total Bi-Amp power	420 W

n FM/AM TUNER, TERMINALS SECTION

Preset station	FM 15 stations
	AM 15 stations
Frequency Modulation (FM)	
Frequency range	87.50 to 108.00 MHz (50 kHz steps)
Sensitivity	4.0 µV (IHF)
S/N 26dB	2.2 µV
Antenna terminals	75 Ω (unbalanced)
Amplitude Modulation (AM)	
Frequency range	522 to 1629 kHz (9 kHz step)
Sensitivity	
S/N 20dB (at 999 kHz)	560 µV/m
Music Port input jack	
Terminal	Stereo, 3.5 mm jack
Sensitivity	100 mV, 4.7 kΩ
Phone jack	
Terminal	Stereo, 3.5 mm jack

n CASSETTE DECK SECTION

Track system	4 track, 2 channel
Heads	
Record/playback	Solid permalloy head
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erasing system	AC erase 100 kHz
Tape speed	4.8 cm/s
Overall frequency response (+3, -6 dB) at DECK OUT	
NORMAL	35 Hz to 14 kHz
S/N ratio	50 dB (A weighted)
Wow and flutter	0.18 % (WRMS)
Fast forward and rewind time	Approx. 120 seconds with C-60 cassette tape

n DISC SECTION

Disc played [8 cm or 12 cm]

(1) CD-Audio (CD-DA)

(2) CD-R/RW (CD-DA, MP3, WMA formatted disc)

(3) MP3/WMA

Bit rate

Panasonic

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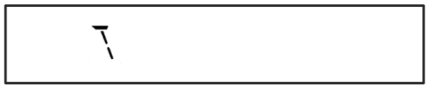
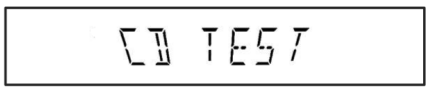
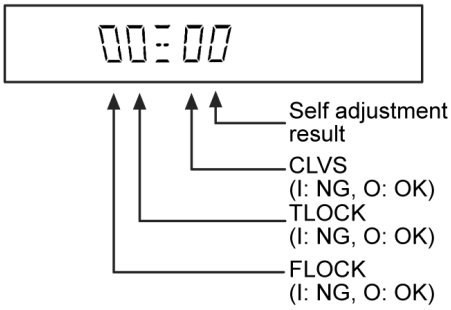
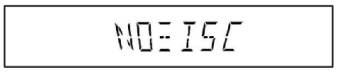
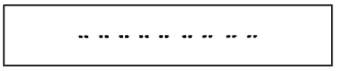
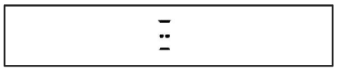
9 Self diagnosis and special mode setting

This unit is equipped with functions for checking and inspecting namely: Self-Diagnostic and Test Mode.

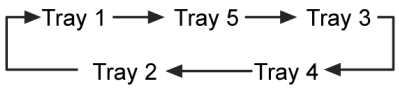
9.1. Special Mode Table

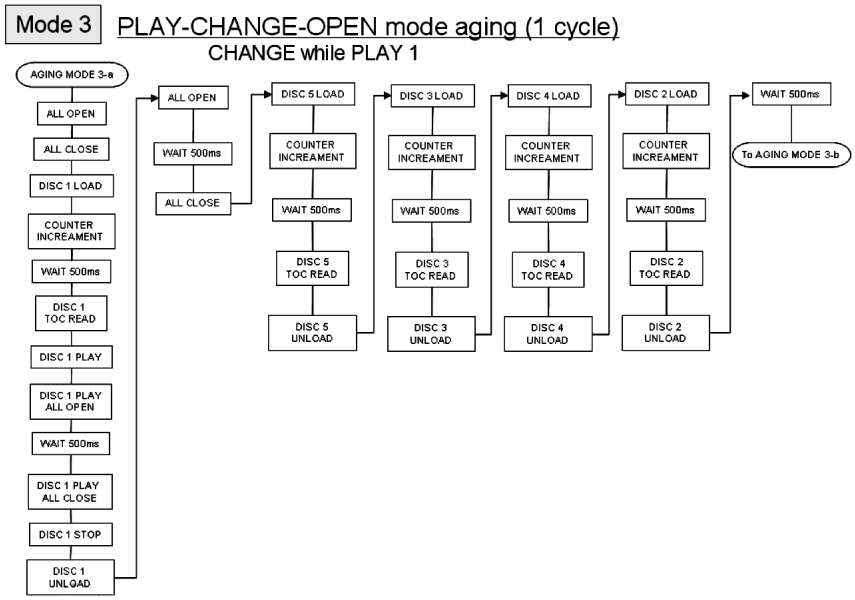
Item		FL Display	Key Operation
Mode Name	**Description**		**Front Key**
Self -Diagnostic Mode	To enter into self diagnostic checking for main unit.		1. Select [►, TAPE] for TAPE mode (Ensure no tape is inserted). 2. Press and hold [■, STOP]button for 3 seconds follow by [►►I, ∧/FF]. To exit, press [⏻/I, POWER] button on main unit or remote control.
CD Test Mode	To enter into checking the reliability of changer unit.		1. Select [►/II, CD] for CD mode. 2. Press and hold [■, STOP] button for 3 seconds follow by [►►I, ∧/FF]. To exit, press [⏻/I, POWER] button on main unit or remote control.
CD Auto Adjustment	To check the CD auto adjustment result for FLOCK, TLOCK and CLVS.		In CD Test Mode: 1. Press [0] button on the remote control. To exit, press [⏻/I, POWER] button on main unit or remote control.
CD Changer Reliability Test (CRS1)	To determine the reliability of CD Changer Unit. (For more information, refer to section 9.1.1)		In Self-Diagnostic Mode: 1. Select [►/II, CD] for CD mode. 2. Press [I◄◄, REW/∨] button. To exit, press [⏻/I, POWER] button on main unit or remote control. (The tray will return to PLAY position and then power off)
Doctor Mode	To enter into Doctor Mode for checking of various items and displaying EEPROM and firmware version.	1. 2.  1. All segments will light up for 1 second. 2. The Check Sum of EEPROM and firmware version will be display. * ROM correction ** Firmware version No:	In any mode: 1. Press [■, STOP] button on main unit follow by [4] and [7] on remote control. To exit, press [ENTER] button on remote control or [⏻/I, POWER] button on main unit or remote control.
Cold Start	To activate cold start upon next AC power up.		In doctor mode: 1. Press [4] button on remote control. To exit, press [ENTER] button on remote control or [⏻/I, POWER] button on main unit or remote control.
Changer Reliability Test	To check the function operation of changer unit. (For more information, refer to 9.1.1)		In doctor mode: 1. Press [DISC] on remote control. To exit, press [ENTER] button on remote control or [⏻/I, POWER] button on main unit or remote control.

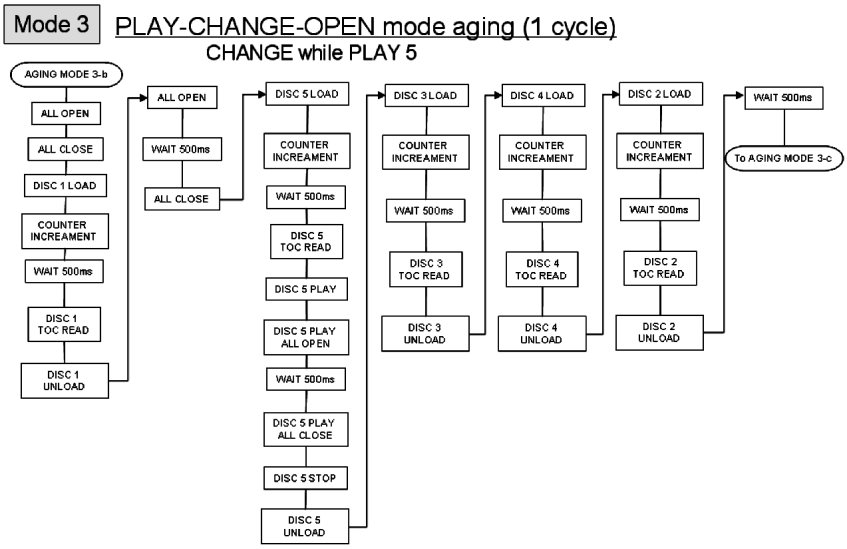
Item		FL Display	Key Operation
Mode Name	Description		Front Key
FL Display Test	To check the FL segments display (All segments will light up and LED will blink at 0.5 second interval)		In doctor mode: 1. Press [DIMMER] button on remote control.
Tape Eject Test	To check on the tape eject function (For deck 1/2)		In doctor mode: 1. Press [PROGRAM] button on remote control.

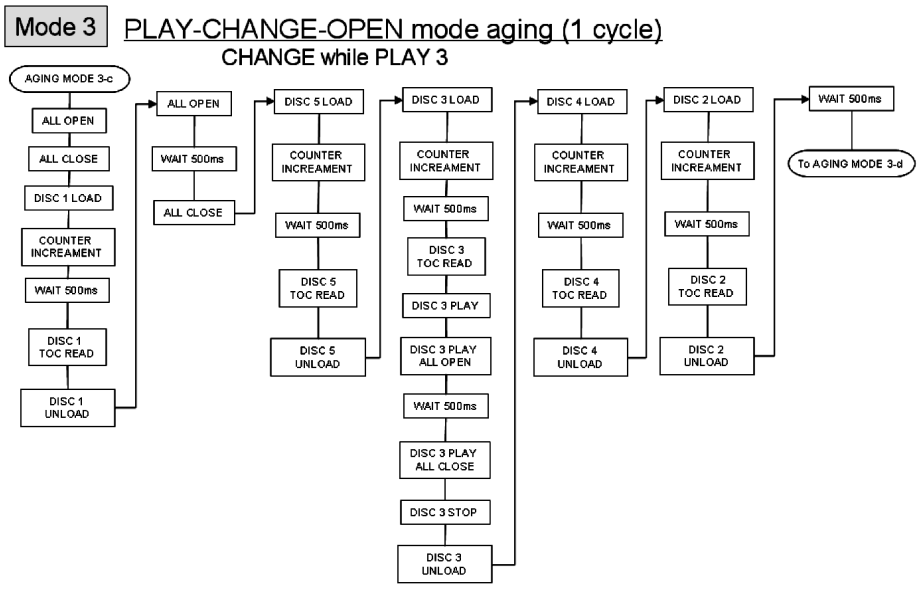
9.1.1. CD changer unit ageing test mode

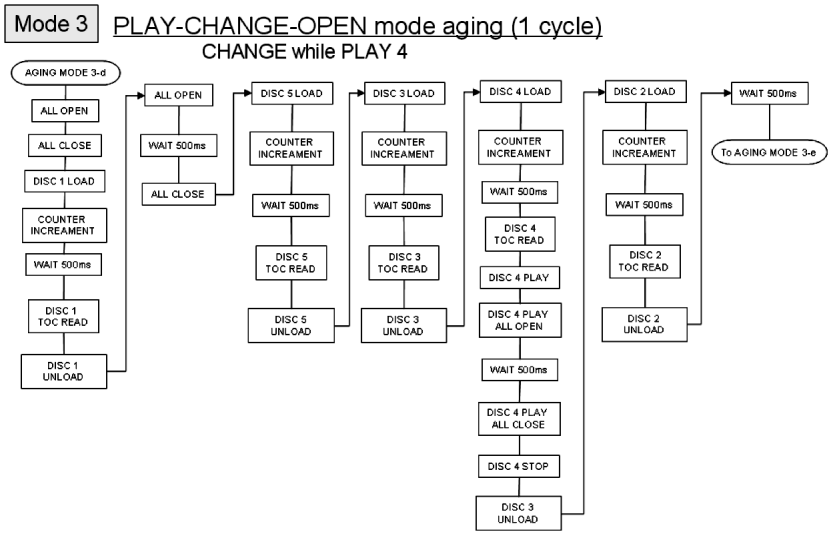
Below is the process flow chart of ageing for the CD changer unit. (CRS1)

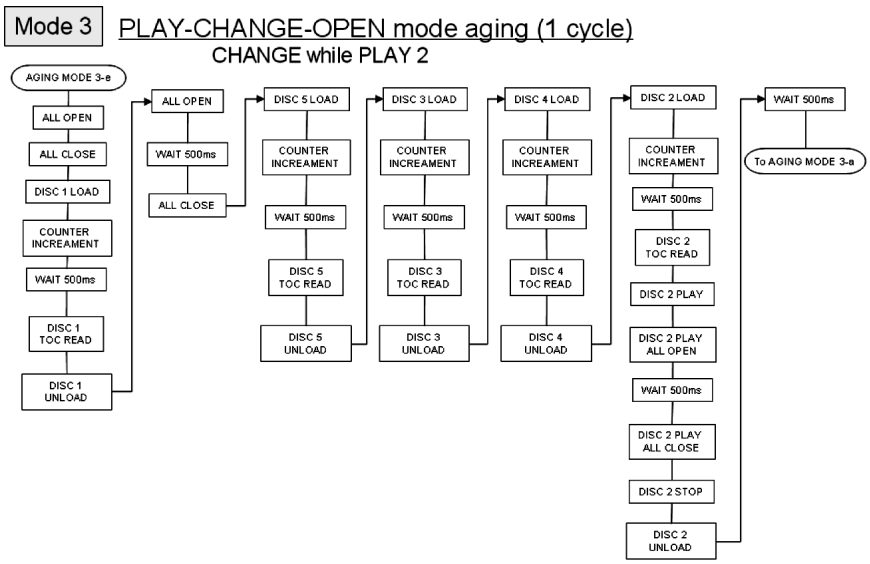








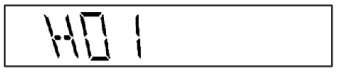
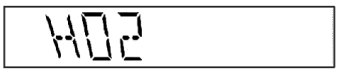
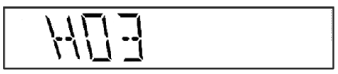
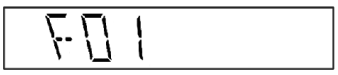
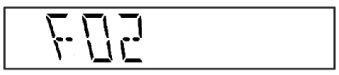
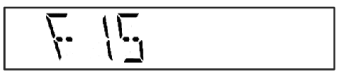
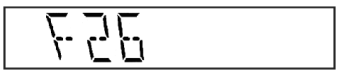
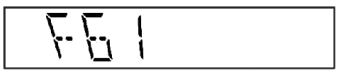
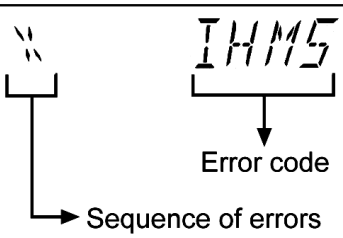
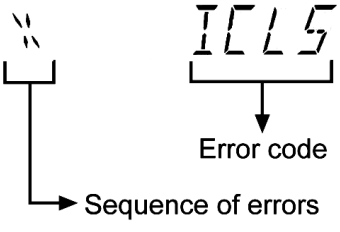
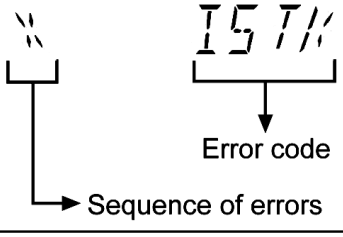
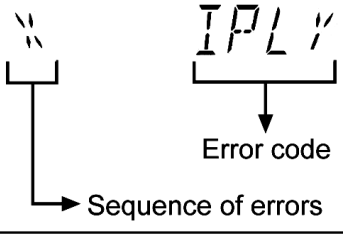


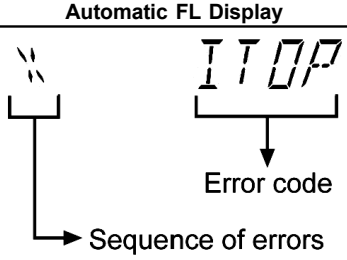
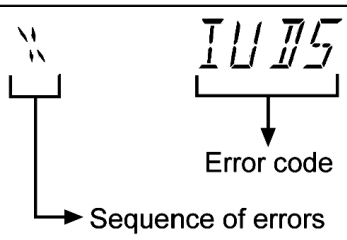
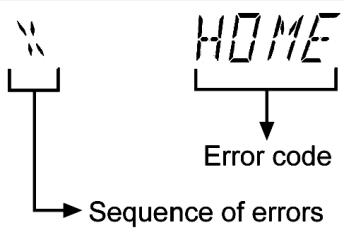
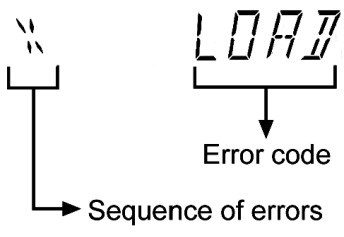
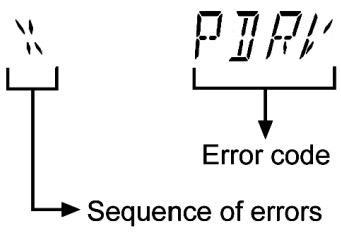
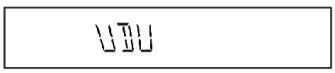
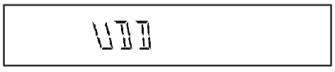
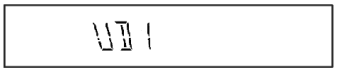
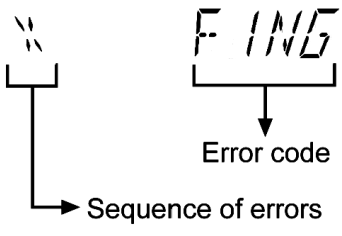


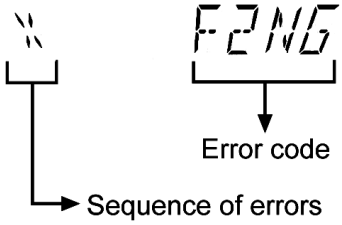
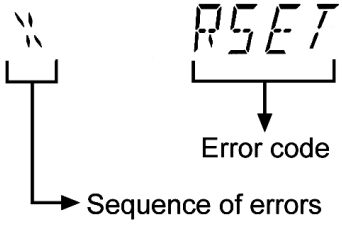
9.2. Error code Table

Self-Diagnosis Function (refer Section 9.1) provides information on any problems occuring for the unit and its respective components by displaying the error codes. These error code such as U**, H** and F** are stored in memory and held unless it is cleared.

The error code is automatically display after entering into self-diagnostic mode.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
H01	Mode SW, plunger and capstan motor abnormal			For deck mechanism unit (For deck 1/2). Press [■, STOP] on main unit for next error.
H02	Rec INH SW abnormal			For deck mechanism unit (For deck 2). Press [■, STOP] on main unit for next error.
H03	HALF SW abnormal			For deck mechanism unit (For deck 1/2). Press [■, STOP] on main unit for next error.
F01 F02	Reel pulse abnormal TPS error		 	For deck mechanism unit (For deck 1/2). Press [■, STOP] on main unit for next error.
F15	RESET SW abnormal	REST SW: ON is not detected within the specified time.		For CD unit (For Traverse). Press [■, STOP] on main unit for next error.
F26	Transmission error between CD Servo LSI IC and microprocessor IC	When set to CD mode, the sense signal does not turn “Low”, a fail safe time after system command transmission is sent.		For CD unit (For Traverse). Press [■, STOP] on main unit for next error.
F61	Power Amp IC output abnormal	Upon power on, PCONT=HIGH, DCDET=L after checking LSI.		For power. Press [■, STOP] on main unit for next error.
IHMS	Cam gear abnormality	Cam gear does not rotate to “HOME” position.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
ICSL	Cam gear/gear units abnormal	Cam gear does not rotate to “PLAY” driving position and hence does not drive playing tray to “STOCK” position.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
ISTK	Drive rack/gear assembly abnormal	The tray drive rack does not move to “STOCK” position. (Tray does not move to “STOCK” position)		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
IPLY	Drive rack/gear assembly abnormal	The tray drive rack does not move to “PLAY” position. (Tray does not move to “PLAY” position)		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
ITOP	UD assembly	UD Rack does not move to front direction. This lead to UD base not raise to top position.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
IUDS	UD assembly	After TOP SW is detected, UD rack does not move into tray 1 position.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
HOME	Cam gear/gear assembly abnormal	Cam gear does not move to “HOME” position under following conditions 1. After tray is load to “PLAY” position. 2. After tray is unload to “STOCK” position.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
LOAD	Tray drive assembly abnormal	Tray unit does not move from “STOCK” to “PLAY” position		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
PDRV	Cam gear/gear assembly abnormal	Cam gear does not move from “HOME” to “PLAY” drive position.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
UDU	UD base asssembly abnormal	UD Base assembly does not move upwards from tray 5 to tray 2		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
UDD	UD base asssembly abnormal	UD Base assembly does not move downwards from tray 1 to tray 5.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
UD1	UD base asssembly abnormal	UD Base assembly does not move to tray 1.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
F1NG	Fail - safe mode. (For open/close tray unit(s))	When the tray open operation is performed, it fails to open. It will automatically close all trays after the time-out by the microprocessor. During this time when it fails, the error code will appear.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.

Error Code	Diagnosis Contents	Description of error	Automatic FL Display	Remarks
F2NG	Fail - safe mode. (For open/close tray unit(s))	When the tray close operation is performed, it fails to close. It will automatically open all trays after the time-out by the microprocessor. During this time when it fails, the error code will appear.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.
SRVC_TRV	To unlock the traverse unit for service	1. All trays set to “STOCK” position 2. Mechanism set to tray 5 3. Cam gear set to “HOME” position		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit.
RSET	Cam gear jam/close sensor faulty	During tray re-open, the cam gear will rotate in the opposite direction to reset the cam gearposition. When it fails, the error code will appear.		For CD changer unit (CRS1). Press [SINGLE CHANGE] on main unit for next error.

CRS1 Error Code display

1. The errors that occured in CRS1 Mechanism can be recalled and displayed, in the order of the occurence under self-diagnostic (Refer to Section 9.1 for procedures to enter this mode.
   - Only the first 5 errors will be memorized (in backup memory). The subsequence error shall be ignored and not memorize. For system with EEPROM as memory backup,memory space in EEPROM is neccesary.
2. To display all error code memorized

   In CRS1 Self-Diagnostic mode, press [SINGLE CHANGE] to display subsequence error code.

   It shall repeat after reaching error no. 5.

   e.g.:

   [1 _ _ _ _ I H M S] → [SINGLE CHANGE]

   [2 _ _ _ _ I T O P] → [SINGLE CHANGE]

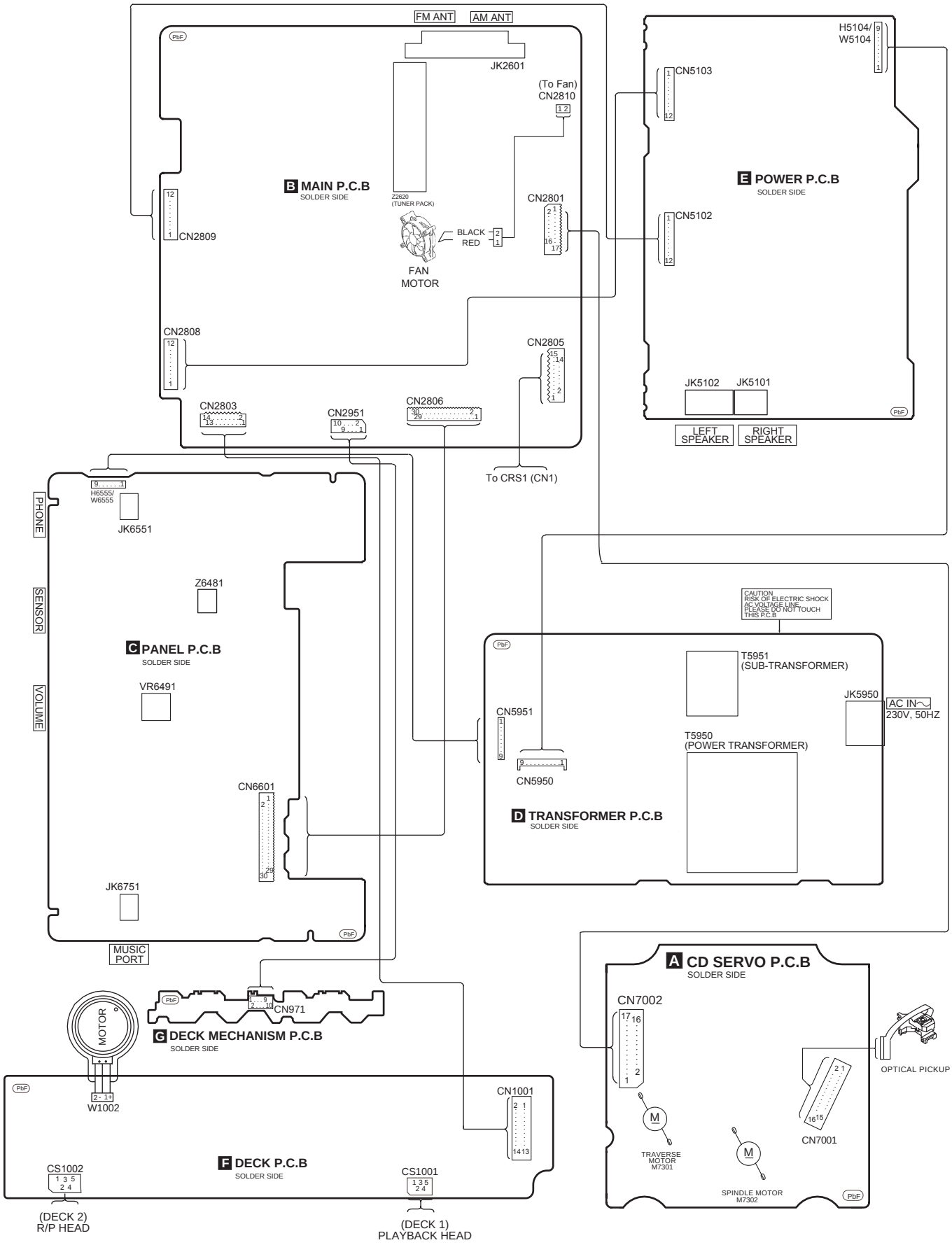
   [3 _ _ _ _ H O M E] → [SINGLE CHANGE]

   [4 _ _ _ _ L O A D] → [SINGLE CHANGE]

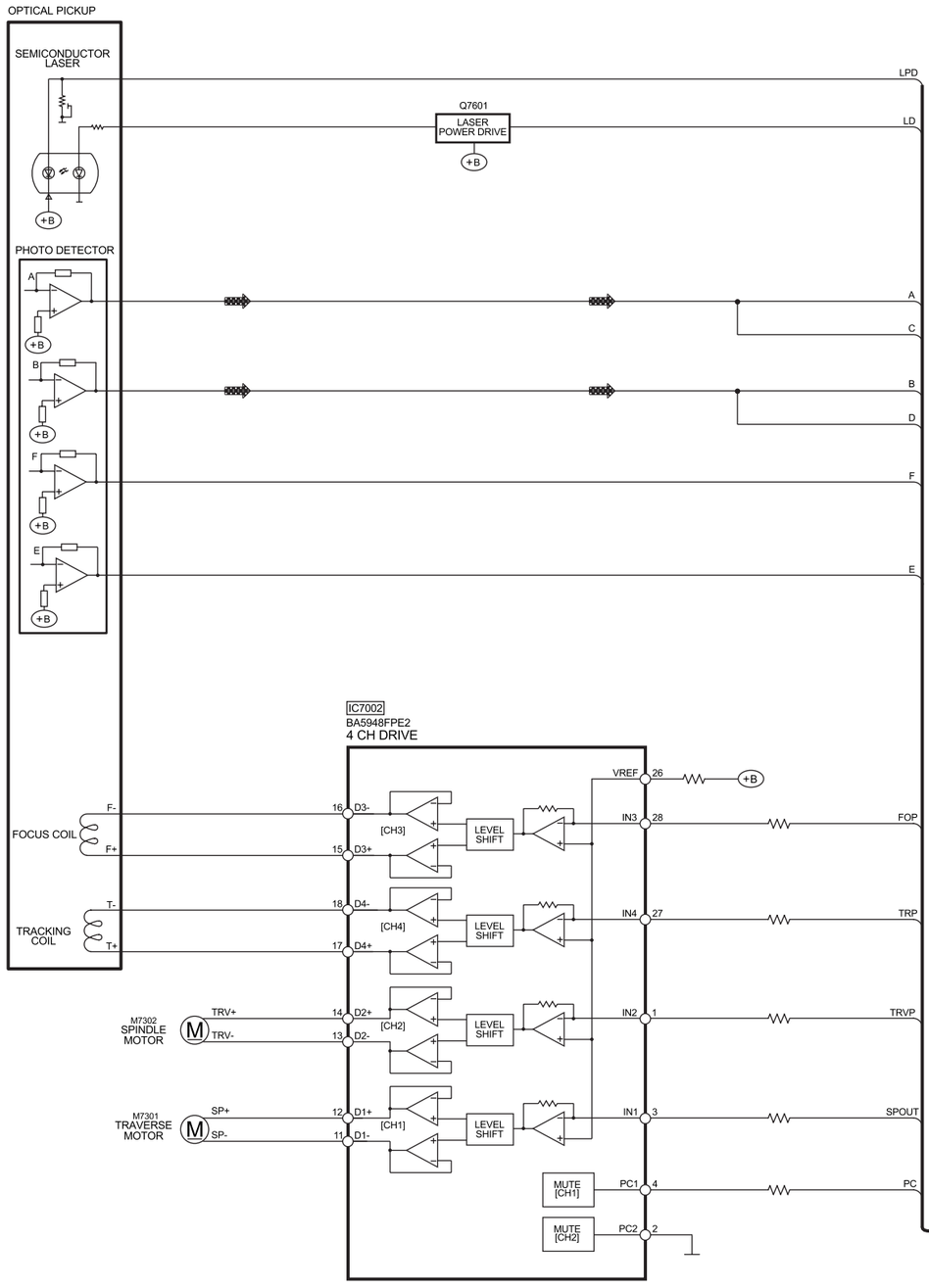
   [5 _ _ _ _ _ U D D] → [SINGLE CHANGE]
3. To clear the error code memory

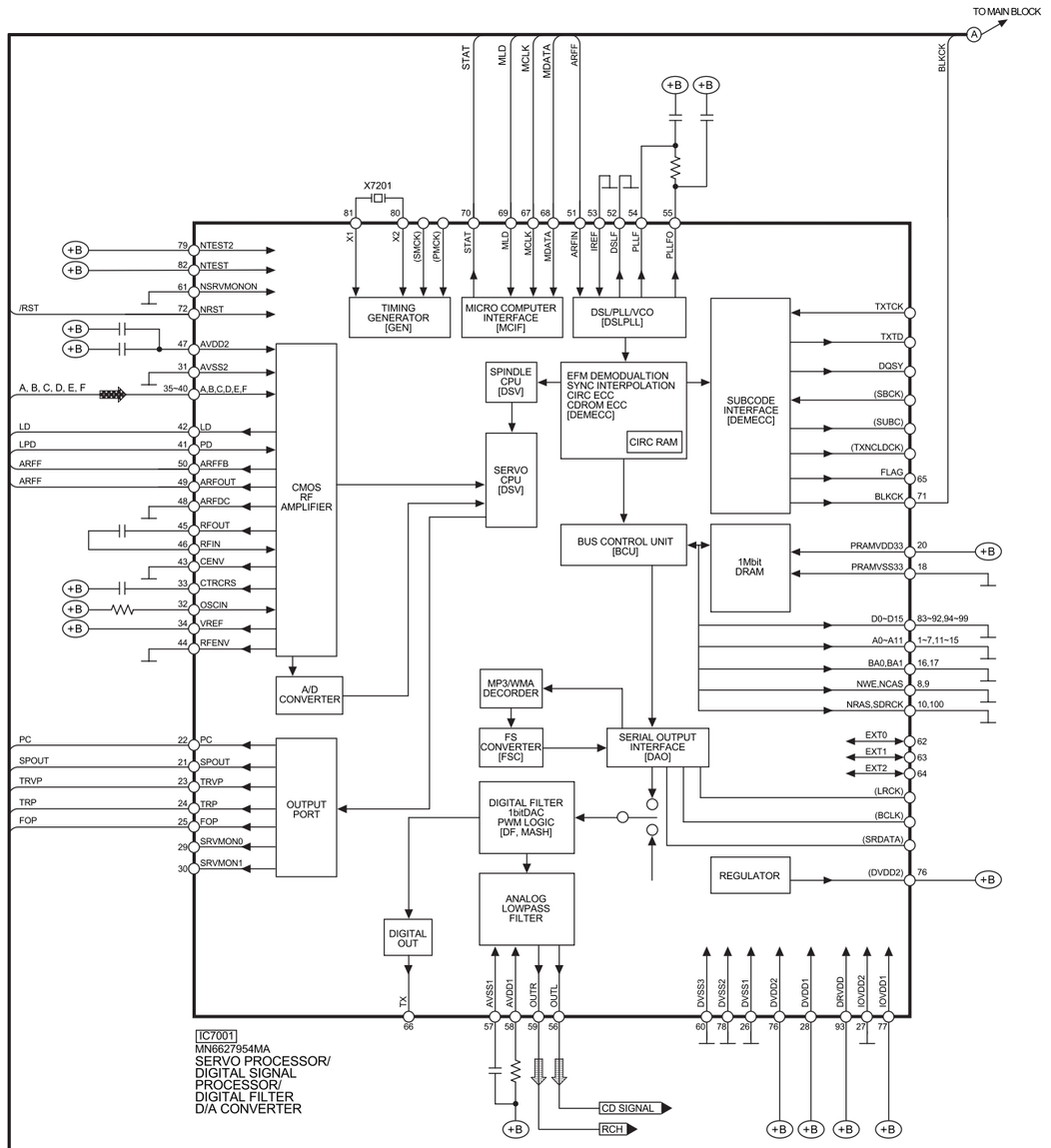
   In CRS1 Self-Diagnostic mode, long press [SINGLE CHANGE] key (2s or more)

15 Wiring Connection Diagram



16 Block Diagram





FMANT

Z2620
RF AMP
MIXER
OSC
BUFFER
+B (FM)

CF2601
Q2601
FM IF AMP
CF2602

AMANT
L2601
D2602
L2602
+B

RCH

IC2601
C1BB00000962
FM/AM IF AMP, DET/AM OSC, MIX/FM MPX
ALC
AM OSC
AM MIX
AM RMAMP
BUFFER
AGC
DECODER
PHASE DET
PILOT CANCEL
STEREO SWITCH
LEVEL DET
S-CURVE
FM IF
FM DET
AM/FM IF BUFFER
AM IF
AM DET
COMP
TUNING DRIVE
VCO
FF
PILOT DET
REG
SD
ST
Z2602
AM IFT
X2602
ST/DO
SD

IC2602
C1CB00001937
PLL FREQUENCY SYNTHESIZER
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
X2603
UNLOCK DETECTOR
SWALLOW COUNTER 1/6,1/17,4 BITS
12 BITS PROGRAMMABLE DIVIDER
UNIVERSAL COUNTER
SHIFT REGISTER LATCH
C2B I/F
DO
CE
DI
CL
ST/DO
CE
PLLDA
PLLCLK
POWER ON RESET
+B
Q2606
TUNER 15V SUPPLY SWITCH
+B (FM)

A
TO CD DRIVE BLOCK

/RST
STAT
ST/DO
PLLCLK
BLKCK
SD
MLD
MDATA
MCLK
CE

Q2907
CD STATUS INTERFACE
Q2906
BLKCK INTERFACE SWITCH

FL6602
FL DISPLAY
GR1
GR12
31~42
SG1
SG16
14~22, 23~29
FROM POWER TRANSFORMER
5~16,24
25~40
FL1
FL24
FL25
FL40
IC6601
C0HBB0000057
FL DRIVER
STB
DIN
CLK

IC1001
AN7348
P.B E
ALC/T
(DECK 1) P.B. HEAD
LCH
(DECK 2) R/P HEAD
LCH
24(23)
1(2)
22(3)
21(4)
17(8)
6
19
15
12

(DECK 2) ERASE HEAD
L1002
Q1003
SWITCHING (BEAT PROOF/ RECH)
IC1004
C1AA00000612
R/P SELECT

Q1017
MOTOR SWITCH
M1002
Q2980
DECK MOTOR SWITCH
+B

IC951
CNB13030R2AU
PHOTO INTERRUPTER
S972
HALF
S971
MODE
S975
RECINH_F
Z971 INTERFACE
S951
MODE
S952
HALF

TO CD LOADING CIRCUIT

C2CBYY000053 IC2801 MICROPROCESSOR

SD
BLKCK
PLLCK
ST/DO
STATUS
CD_RST
FL_CS
FL_DOUT
FL_CLK
HOME_SW
SPEED
CLOSE_SW
OPEN_SW
CHG_CW
CHG_CCW
ST_SW
PLAY_SW
BOTTOM_SW
UP_SENSOR
MODE_1
HALF_1
PHOTO_1
DECK2
MLD
MDATA
MCLK
PLLCE
RESTSW
S7201 RESET SWITCH
V_JOG_A
V_JOG_B
VR6491 JOG VOL
XC_IN
XC_OUT
X2801
X_OUT
X_IN
X2802
VOL_LED
D6462
QR6457
LED DRIVE
+B

IC1001
AN7348S-E1
P.B EQ/REC AMP/
ALC/TPS AMP

(DECK 1)
P.B. HEAD
LCH

(DECK 2)
R/P HEAD
LCH

FROM POWER
TRANSFORMER

LOGIC L/H
ALC
NOR/CrO &
HI/LO LOGIC
LOGIC
REC/PB
RIPPLE
REJECTION

IC1004
C1AA00000612
R/P SELECT

(DECK 2)
ERASE HEAD
L1002
+B
Q1003
SWITCHING
(BEAT PROOF/
RECH)
BIAS OSC
CONTROL
Q1004, Q1005,
Q1007
Q2978
CONTROL
SWITCH

IC2803
C1BB00001121
AUDIO SOUND PROCESSOR

3(4) IN-L2(R2)
1(2) IN-L1(R1)
53(17) REC-L(R)
54(16) GV-OUT-L(R)
5(6) IN-L3(R3)
7(8) IN_L4(R4)
L-OUT(R-OUT) 42(37)
40 DATA
39 CLK

CD SIGNAL
RCH
JK6751
MUSIC PORT INPUT

Q2142(Q2242)
AGC
CONTROL
SWITCH
Q2411(Q2311)
MUTING
CONTROL

IC2804
C0AABB000125
IC OP-AMP
FILTER
Q2317 (Q

Q2501
METER
CONTROL
SWITCH
Q2511
MUTING
CONTROL
−B

Q1017
MOTOR
SWITCH
M1002
Q2980
DECK
MOTOR
SWITCH
+B

Q2942,Q2943
FAN
MOTOR
DRIVE
FILTER
D2811
+B
Q2948,Q2949
DC DETECT
SWITCH
D2813
S6101~S6108,
S6201~S6207,
S6302~S6307
92 ~ 94

IC951
CNB13030R2AU
PHOTO
INTERRUPTER
MODE
HALF
S951
S952
HALF
MODE
RECINH_F
S972
S971
S975
Z971
INTERFACE
IC971
CNB13030R2AU
PHOTO
INTERRUPTER

Q2959,Q2960
PLUNGER
SUPPLY SWITCH/
PLUNGER:ON/OFF
SWITCH
D951
Q2957,Q2958
PLUNGER
SUPPLY SWITCH/
PLUNGER:ON/OFF
SWITCH
D971
IC2871
E-EPROM
(NOT SUPPLIED)
D2503

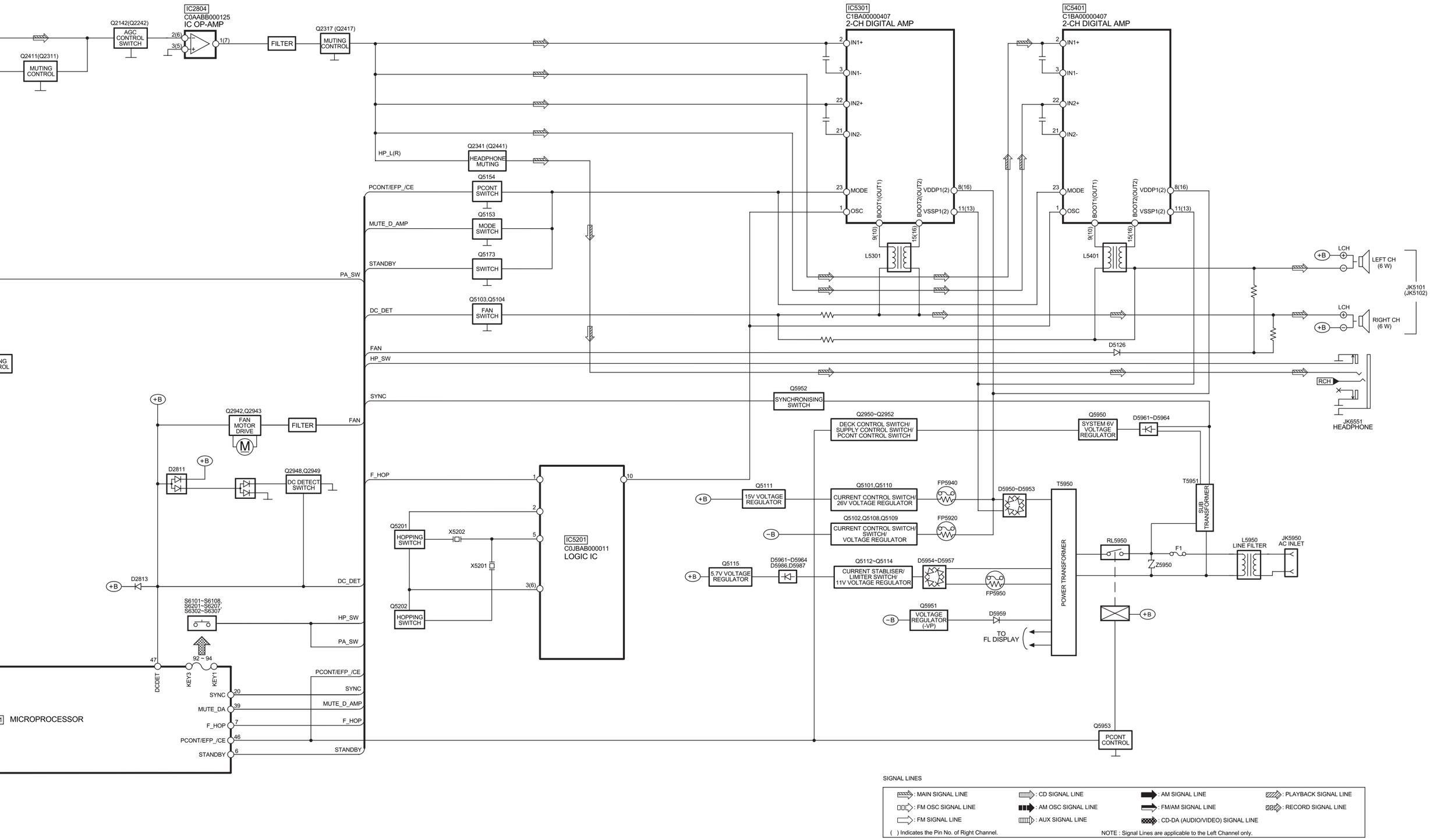
CIRCUIT

86 ST_SW
87 PLAY_SW
89 BOTTOM_SW
90 UP_SENSOR
53 MODE_1
52 HALF_1
97 PHOTO_1
91 DECK2
95 PHOTO_2
58 MTR
59 REC
60 DECK1_H
56 PLG1
57 PLG2
43 EE_DAT
42 EE_CLK
41 EE_CS
1 LM_1
26 ASP_DAT
27 ASP_CLK
40 MUTE_A
47 DCDET
KEY3
KEY1
20 SYNC
39 MUTE_DA
7 F_HOP
46 PCONT/EFP_/CE
6 STANDBY

C2CBYY000053 IC2801 MICROPROCESSOR

C2CBYY000053 IC2801 MICROPROCESSOR

66 VOL_LED
QR6457
D6462
LED
DRIVE
18 RMT
Z6481
REMOTE SENSOR



SIGNAL LINES

: MAIN SIGNAL LINE
: CD SIGNAL LINE
: AM SIGNAL LINE
: PLAYBACK SIGNAL LINE
: FM OSC SIGNAL LINE
: AM OSC SIGNAL LINE
: FM/AM SIGNAL LINE
: RECORD SIGNAL LINE
: FM SIGNAL LINE
: AUX SIGNAL LINE
: CD-DA (AUDIO/VIDEO) SIGNAL LINE

( ) Indicates the Pin No. of Right Channel.

NOTE : Signal Lines are applicable to the Left Channel only.

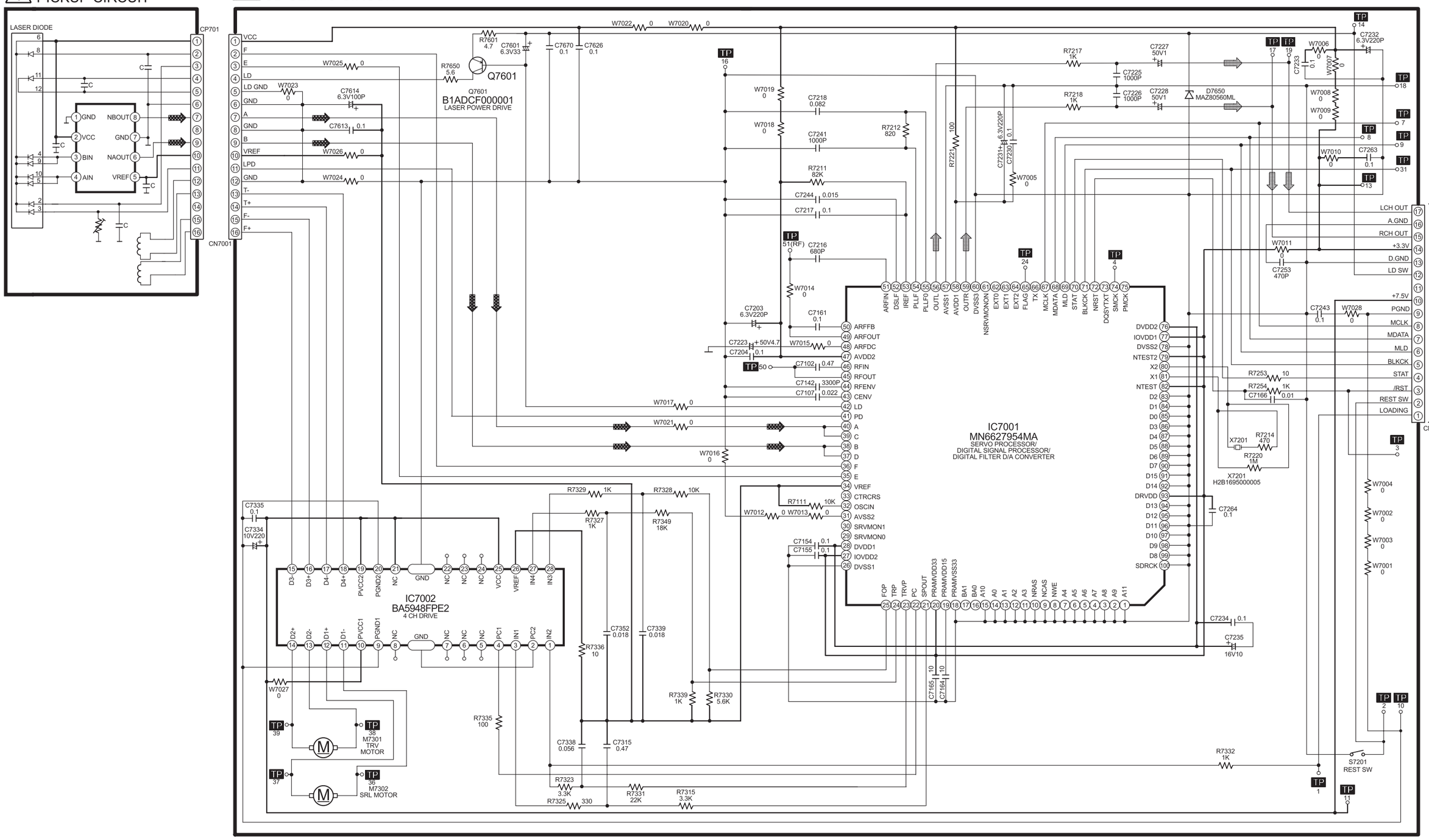
17.2. (A) CD Servo Circuit

SCHEMATIC DIAGRAM - 1

OPTICAL PICKUP CIRCUIT

A CD SERVO CIRCUIT

—— : +B SIGNAL LINE : CD-DA SIGNAL LINE : CD SIGNAL LINE



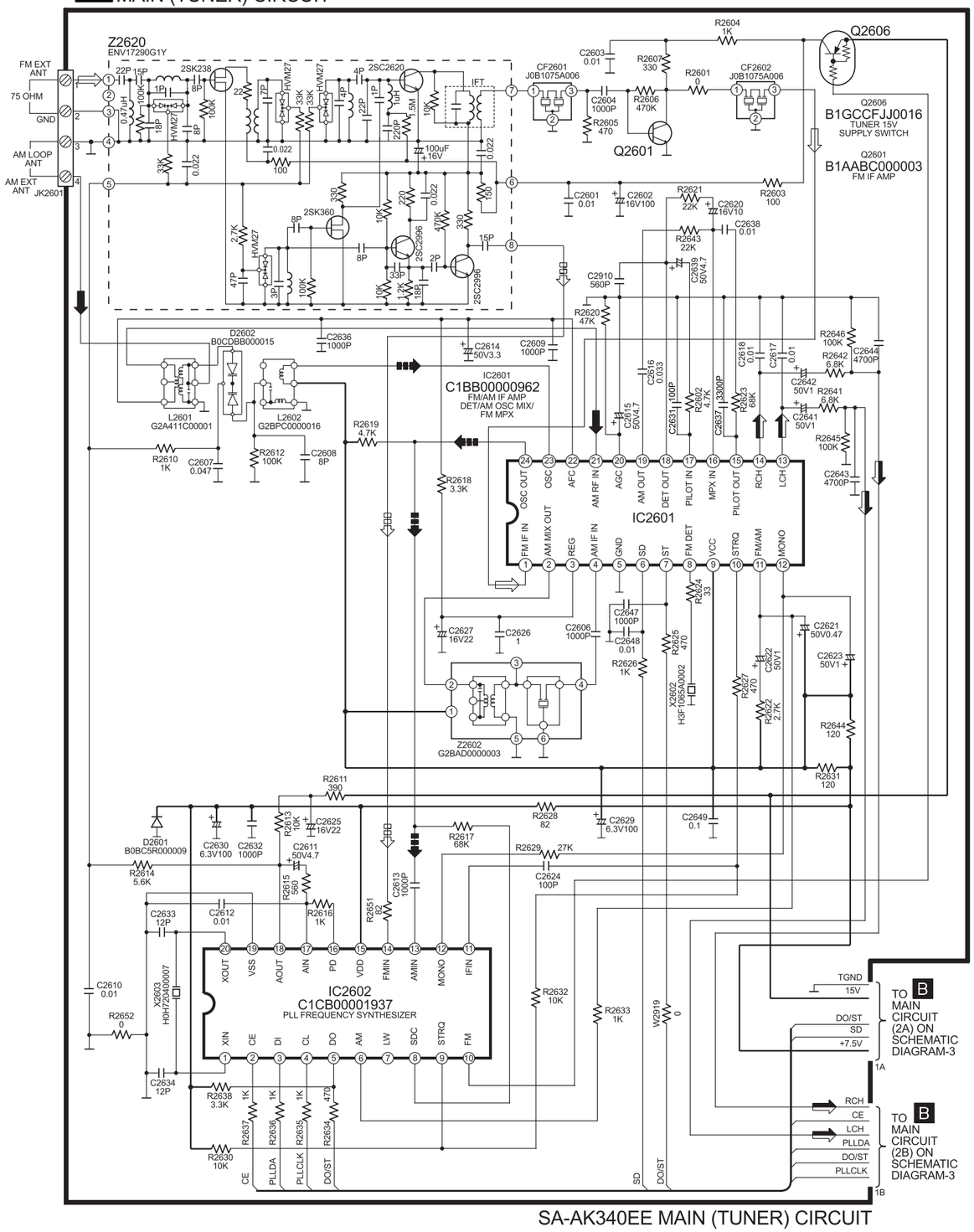
SA-AK340EE CD SERVO CIRCUIT

17.3. (B) Main (Tuner) Circuit

SCHEMATIC DIAGRAM - 2

B MAIN (TUNER) CIRCUIT

: +B SIGNAL LINE
: FM/AM SIGNAL LINE
: FM SIGNAL LINE
: FM OSC SIGNAL LINE
: AM SIGNAL LINE
: AM OSC SIGNAL LINE



SA-AK340EE MAIN (TUNER) CIRCUIT

17.4. (B) Main Circuit

SCHEMATIC DIAGRAM - 3

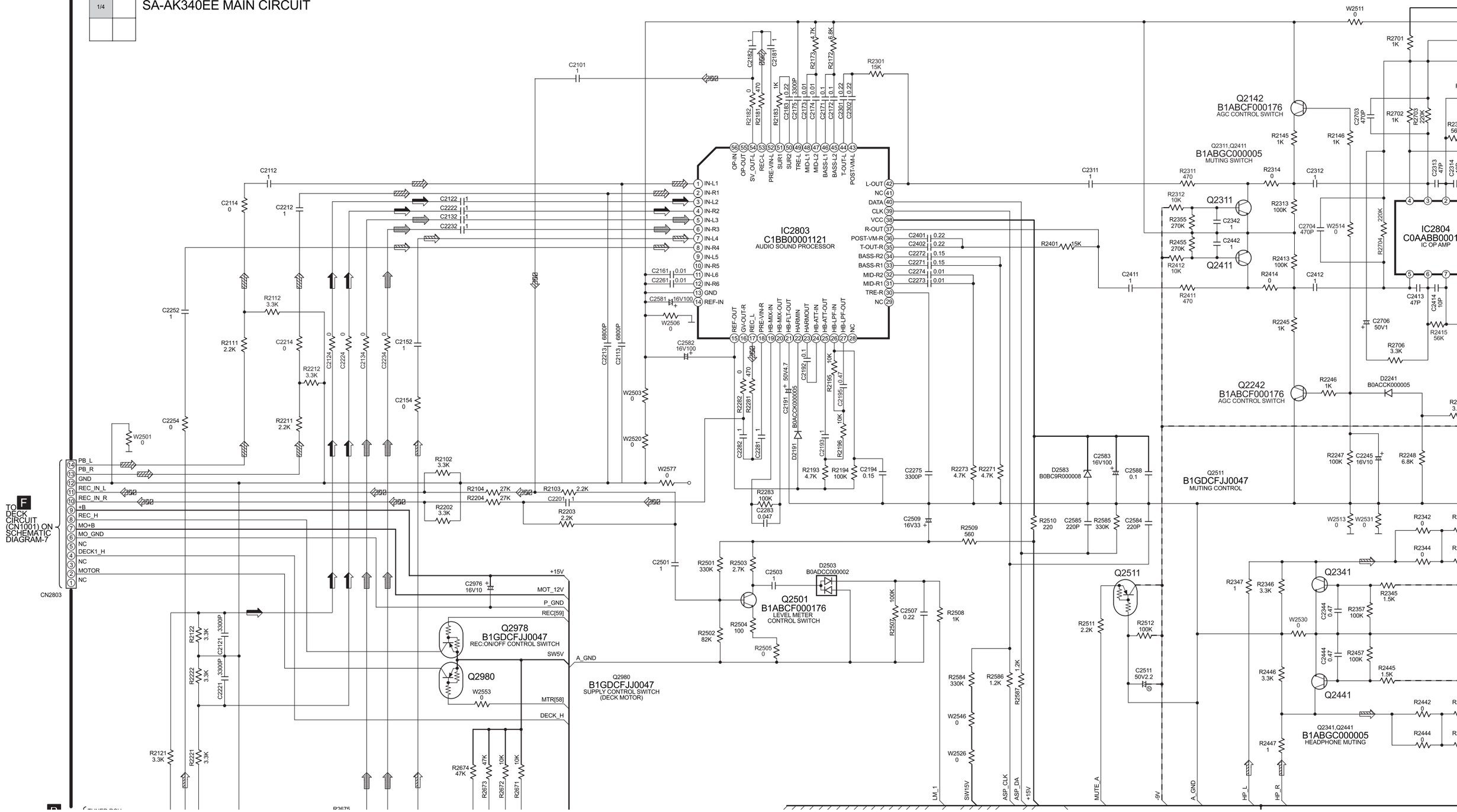
: +B SIGNAL : FM/AM SIGNAL LINE : TAPE RECORD SIGNAL LINE : CD SIGNAL LINE

: -B SIGNAL : MAIN SIGNAL LINE : TAPE PLAYBACK SIGNAL LINE

B MAIN CIRCUIT

1/4

SA-AK340EE MAIN CIRCUIT



SA-AK340EE MAIN CIRCUIT

2/4

Q2142
B1ABCF000176
AGC CONTROL SWITCH

Q2311,Q2411
B1ABGC000005
MUTING SWITCH

Q2311

Q2411

IC2804
C0AABB000125
IC OP AMP

Q2317

Q2417

Q2317,Q2417
B1ABGC000005
MUTING SWITCH

Q2242
B1ABCF000176
AGC CONTROL SWITCH

D2241
B0ACCK000005

Q2511
B1GDCFJJ0047
MUTING CONTROL

Q2511

Q2341

Q2441

Q2341,Q2441
B1ABGC000005
HEADPHONE MUTING

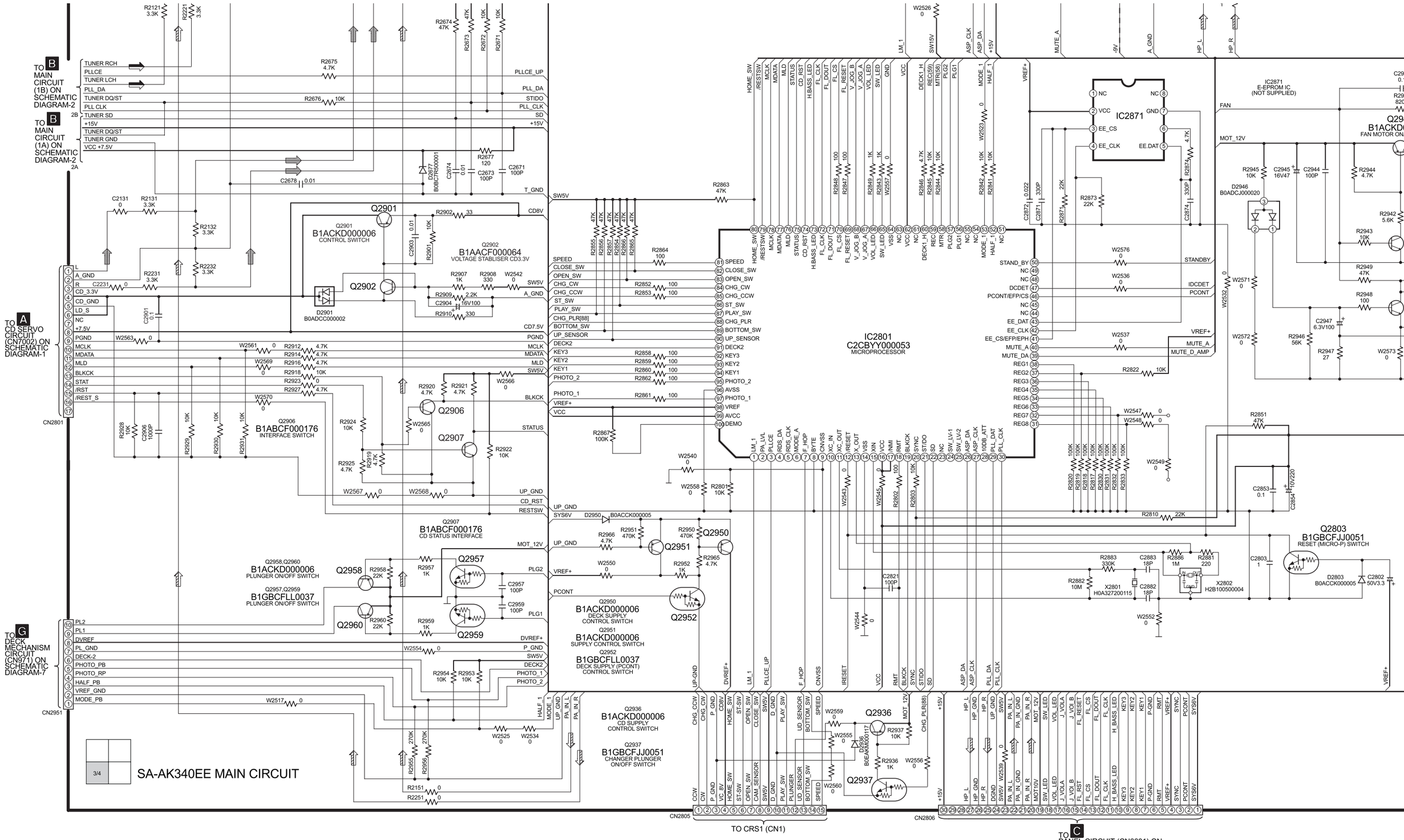
D2583
B0BC9R000008

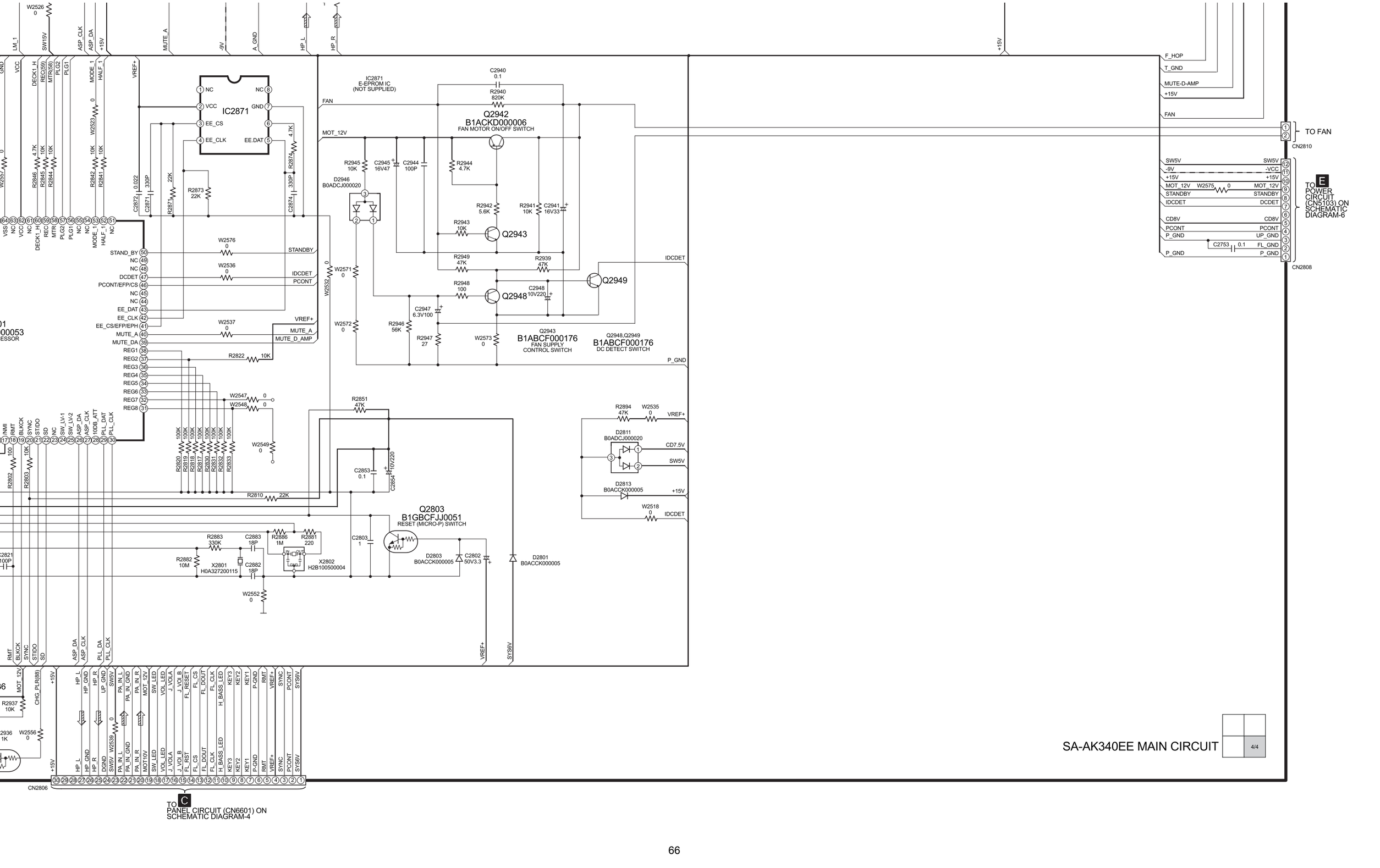
W2511 0
R2701 1K
C2701 0.01
C2702 16V100
R2705 3.3K
C2705 50V1
R2702 1K
R2703 220K
C2703 470P
R2315 56K
C2315 16V22
R2145 1K
R2146 1K
C2313 47P
C2314 10P
C2311 1
R2311 470
R2314 0
C2312 1
R2312 10K
R2355 270K
C2342 1
R2455 270K
C2442 1
R2412 10K
R2313 100K
C2704 470P
W2514 0
R2704 220K
R2401 15K
C2411 1
R2411 470
R2414 0
C2412 1
C2413 47P
C2414 10P
R2245 1K
C2706 50V1
R2706 3.3K
R2415 56K
C2415 16V22
R2246 1K
R2249 3.3K
R2247 100K
C2245 16V10
R2248 6.8K
W2513 0
W2531 0
R2316 2.2K
R2335 1K
C2331 4700P
R2329 3.3K
C2321 1
R2331 0
W2510 0
R2321 0
R2317 10K
R2356 180K
C2343 0.47
R2318 100K
C2323 0.015
R2323 39K
R2333 15K
W2508 0
R2456 180K
C2443 0.47
R2417 10K
R2418 100K
R2433 15K
R2431 0
R2416 2.2K
R2435 1K
C2431 4700P
R2423 39K
C2423 0.015
R2429 3.3K
C2421 1
R2421 0
W2512 0
C2333 1
R2334 0
C2325 16V10
R2326 0
R2328 15K
R2428 15K
C2425 16V10
R2426 0
C2433 1
R2434 0
C2943 50V2.2
R2342 0
R2341 27
R2352 27
R2351 0
R2344 0
R2343 27
R2354 27
R2353 0
R2347 1
R2346 3.3K
R2345 1.5K
C2344 0.47
R2357 100K
C2341 1000P
W2530 0
R2511 2.2K
R2512 100K
C2511 50V2.2
C2444 0.47
R2457 100K
C2441 1000P
R2446 3.3K
R2445 1.5K
R2442 0
R2441 27
R2452 27
R2451 0
R2444 0
R2443 27
R2454 27
R2453 0
R2447 1
R2583 16V100
C2588 0.1
R2273 4.7K
R2271 4.7K
R2510 220
C2585 220P
R2585 330K
C2584 220P
R2509 560
R2508 1K
R2584 330K
R2586 1.2K
R2587 1.2K
W2546 0
W2526 0

F_HOP
T-GND
MUTE-D-AMP
+15V
HIGH_L-IN
HIGH_R-IN
ASP_GND
LOW_L-IN
LOW_R-IN
A_GND
FAN
CN2809

TO E POWER CIRCUIT (CN5102) ON SCHEMATIC DIAGRAM-6

LM_1
SW15V
ASP_CLK
ASP_DA
+15V
MUTE_A
-9V
A_GND
HP_L
HP_R
+15V
F_HOP


TO B MAIN CIRCUIT (1B) ON SCHEMATIC DIAGRAM-2
TO B MAIN CIRCUIT (1A) ON SCHEMATIC DIAGRAM-2
TO A CD SERVO CIRCUIT (CN7002) ON SCHEMATIC DIAGRAM-1
TO G DECK MECHANISM CIRCUIT (CN971) ON SCHEMATIC DIAGRAM-7
TO B MAIN CIRCUIT (1B) ON SCHEMATIC DIAGRAM-2
TO B MAIN CIRCUIT (1A) ON SCHEMATIC DIAGRAM-2
TO C PANEL CIRCUIT (CN6601) ON SCHEMATIC DIAGRAM-4
CN2801
CN2951
CN2805
CN2806
IC2801
C2CBYY000053
MICROPROCESSOR
IC2871
E-EPROM IC
(NOT SUPPLIED)
Q2901
B1ACKD000006
CONTROL SWITCH
Q2902
B1AACF000064
VOLTAGE STABLISER CD3.3V
Q2906
B1ABCF000176
INTERFACE SWITCH
Q2907
B1ABCF000176
CD STATUS INTERFACE
Q2958,Q2960
B1ACKD000006
PLUNGER ON/OFF SWITCH
Q2957,Q2959
B1GBCFLL0037
PLUNGER ON/OFF SWITCH
Q2950
B1ACKD000006
DECK SUPPLY CONTROL SWITCH
Q2951
B1ACKD000006
SUPPLY CONTROL SWITCH
Q2952
B1GBCFLL0037
DECK SUPPLY (PCONT) CONTROL SWITCH
Q2936
B1ACKD000006
CD SUPPLY CONTROL SWITCH
Q2937
B1GBCFJJ0051
CHANGER PLUNGER ON/OFF SWITCH
Q2803
B1GBCFJJ0051
RESET (MICRO-P) SWITCH
D2946
B0ADCJ000020
FAN
MOT_12V
STANDBY
IDCDET
PCONT
MUTE_A
MUTE_D_AMP
VREF+
SA-AK340EE MAIN CIRCUIT
3/4



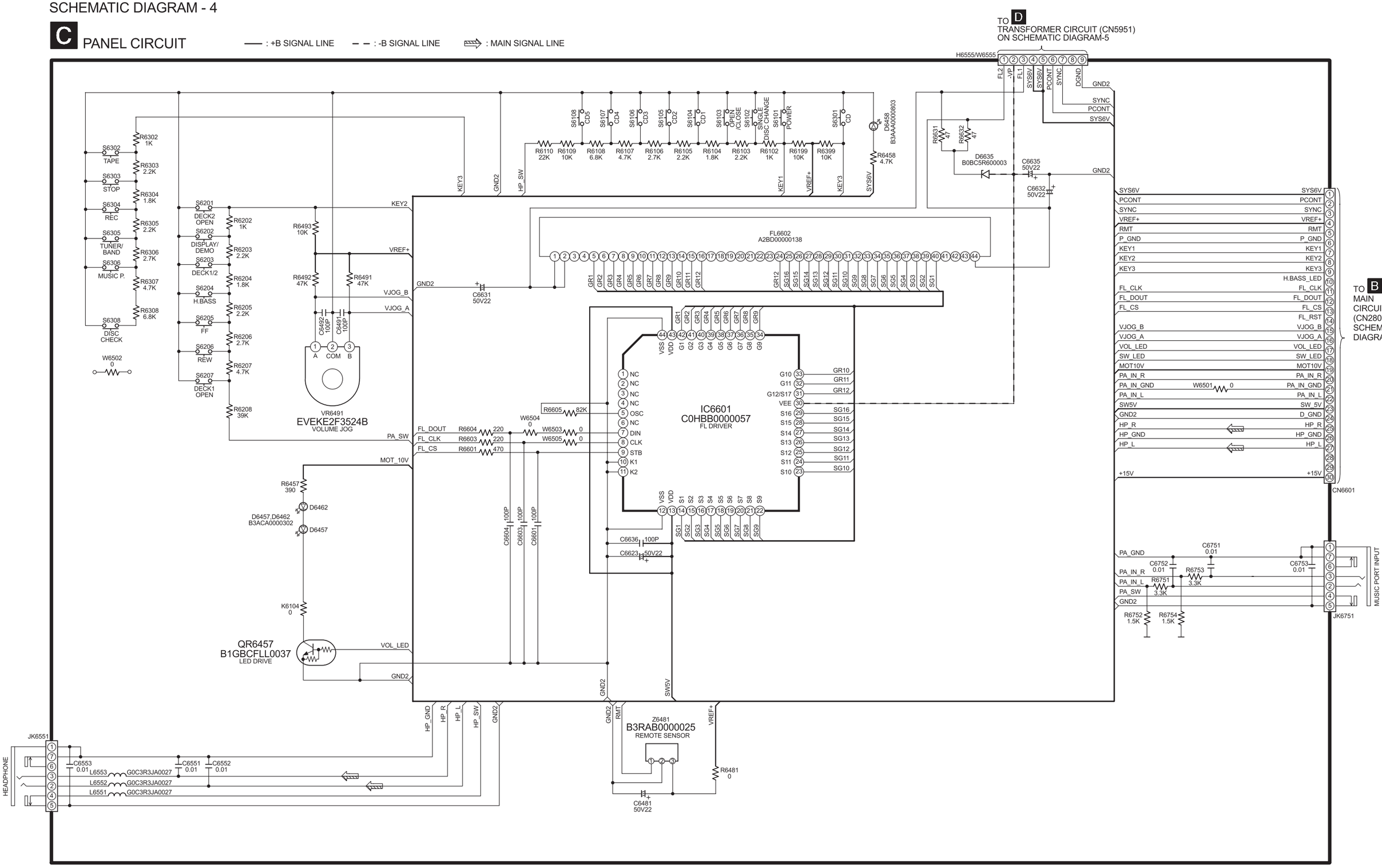
SA-AK340EE MAIN CIRCUIT 4/4

17.5. (C) Panel Circuit

SCHEMATIC DIAGRAM - 4

C PANEL CIRCUIT

—— : +B SIGNAL LINE – – : -B SIGNAL LINE ⇒ : MAIN SIGNAL LINE

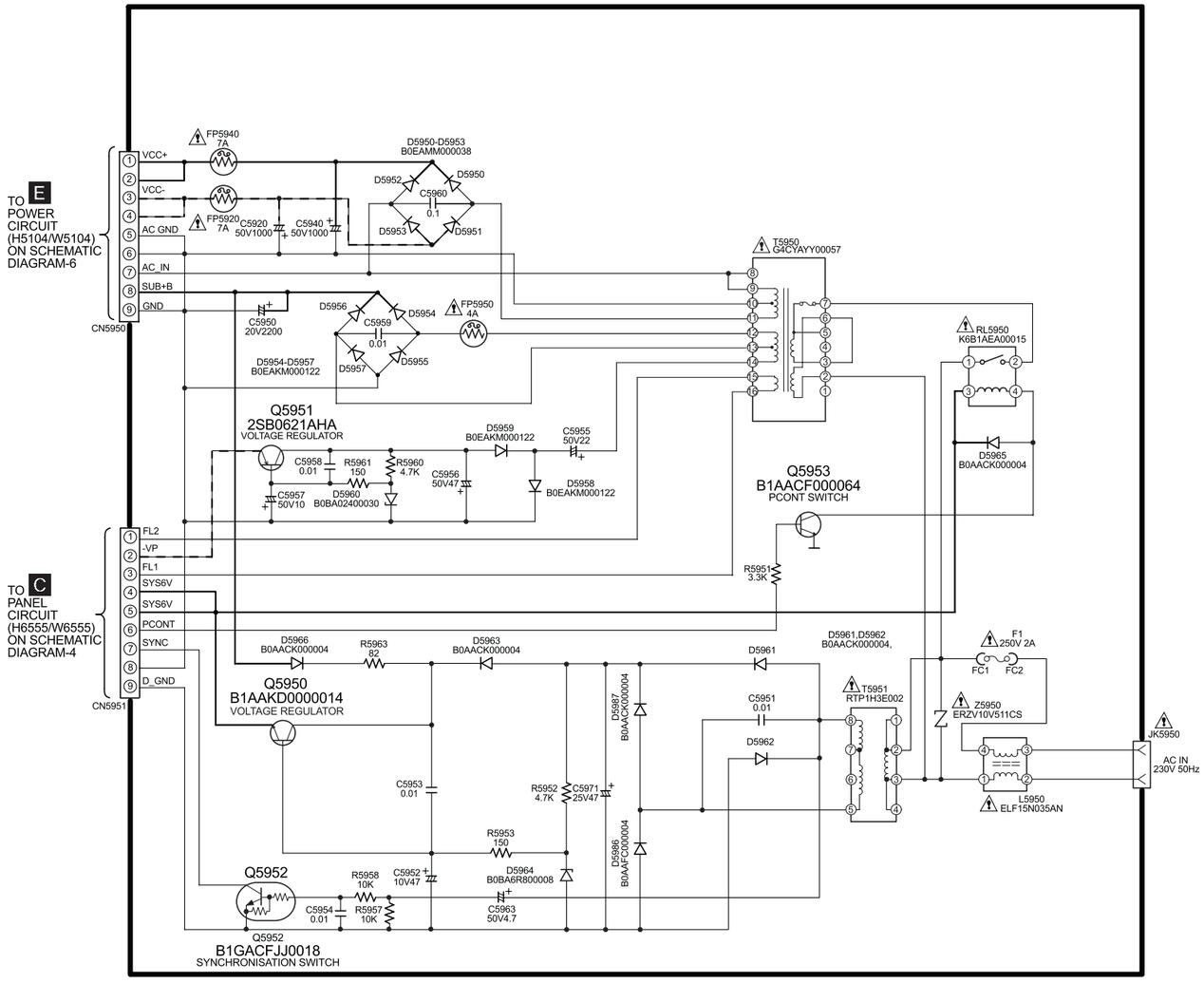


SA-AK340EE PANEL CIRCUIT

17.6. (D) Transformer Circuit

SCHEMATIC DIAGRAM - 5

D TRANSFORMER CIRCUIT —— : +B SIGNAL LINE – – : -B SIGNAL LINE



SA-AK340EE TRANSFORMER CIRCUIT

17.7. (H) Power Circuit

SCHEMATIC DIAGRAM - 6

E POWER CIRCUIT —— : +B SIGNAL LINE – – : -B SIGNAL LINE ⇒ : MAIN SIGNAL LINE

1/2 SA-AK340EE POWER CIRCUIT

IC5301 C1BA00000407 2-CH DIGITAL AMP

IC5401 C1BA00000407 2-CH DIGITAL AMP

IC5201 C0JBAB000011 LOGIC

Q5154 2SB0709AHL PCONT SWITCH

Q5173 B1ABCF000176 SWITCH

Q5153 B1ABCF000176 MODE SWITCH

Q5201 B1ABCF000176 FREQUENCY HOPPING SWITCH

Q5202 B1ADCF000063 FREQUENCY HOPPING SWITCH

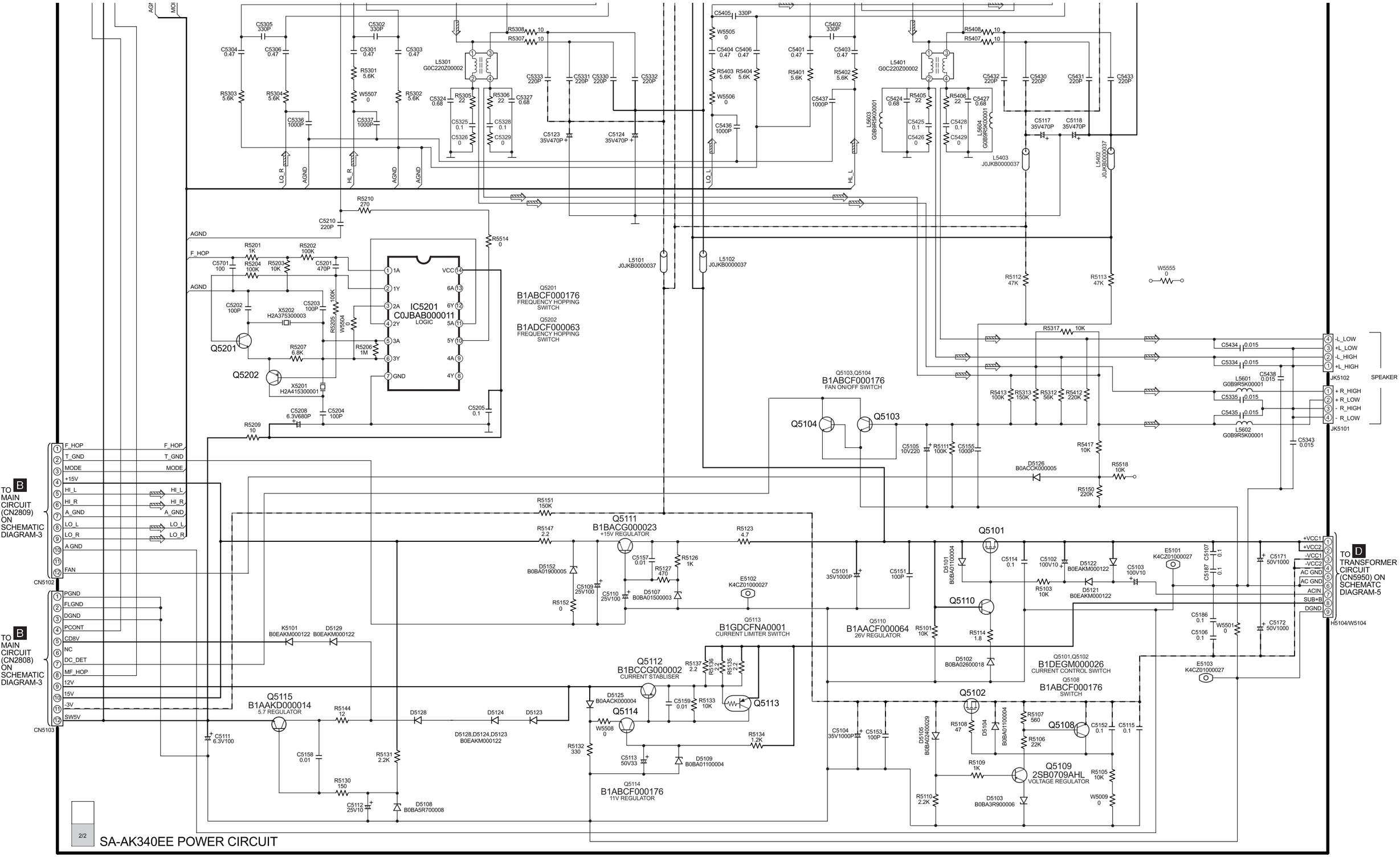
Q5103,Q5104 B1ABCF000176 FAN ON/OFF SWITCH

Q5111 B1BACG000023 +15V REGULATOR

TO B MAIN CIRCUIT (CN2809) ON SCHEMATIC DIAGRAM-3

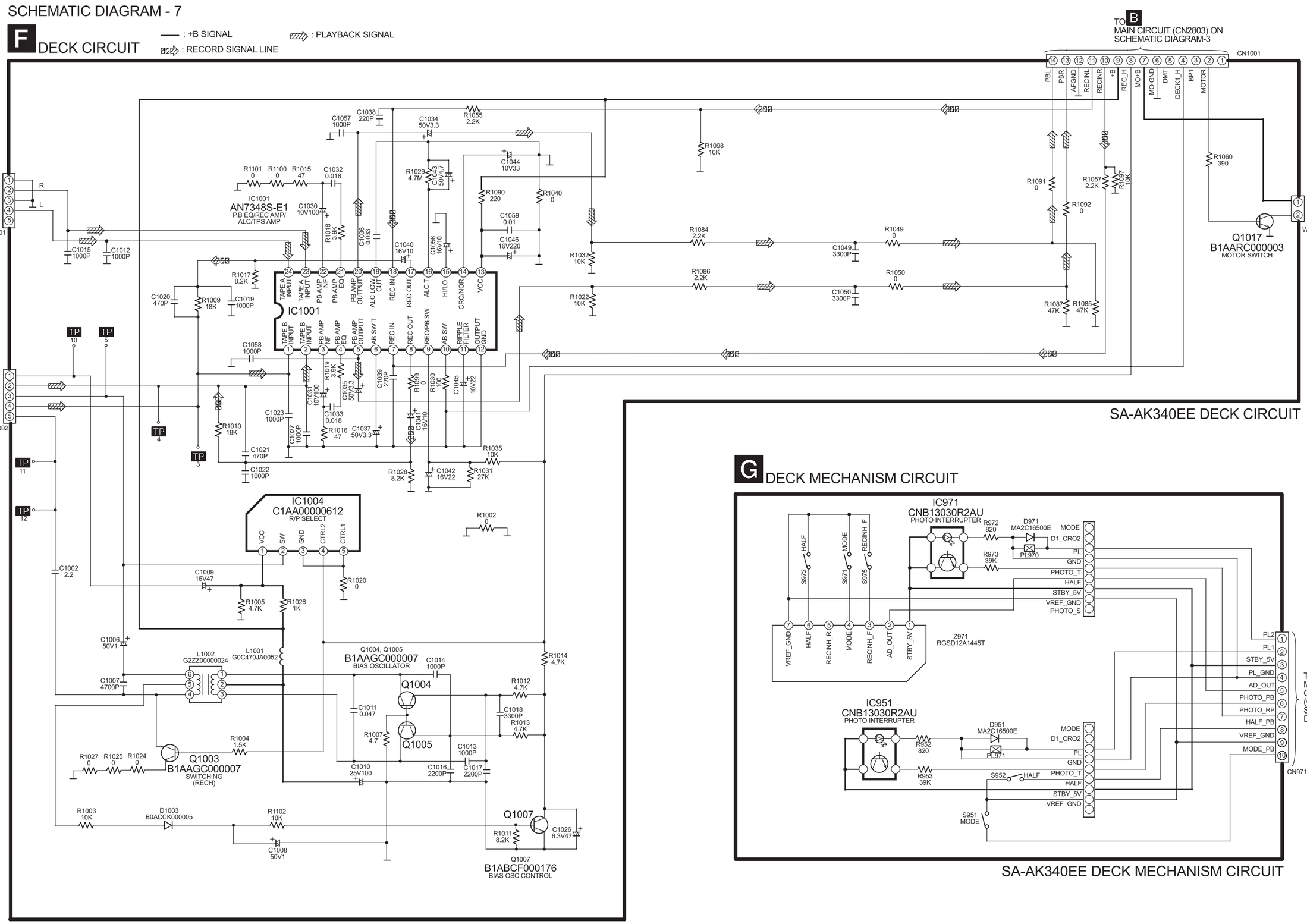
TO D TRANSFORMER CIRCUIT (CN5950) ON

SPEAKER


C5305 330P
C5302 330P
C5304 0.47
C5306 0.47
C5301 0.47
C5303 0.47
R5303 5.6K
R5304 5.6K
R5301 5.6K
W5507 0
R5302 5.6K
C5336 1000P
C5337 1000P
L5301 G0C220Z00002
R5308 10
R5307 10
C5324 0.68
R5305 22
R5306 22
C5327 0.68
C5325 0.1
C5328 0.1
C5326 0
C5329 0
C5333 220P
C5331 220P
C5330 220P
C5332 220P
C5123 35V470P
C5124 35V470P
LO_R
AGND
HL_R
AGND
AGND
C5405 330P
C5402 330P
W5505 0
C5404 0.47
C5406 0.47
C5401 0.47
C5403 0.47
R5403 5.6K
R5404 5.6K
R5401 5.6K
R5402 5.6K
W5506 0
C5436 1000P
C5437 1000P
L5401 G0C220Z00002
R5408 10
R5407 10
C5424 0.68
R5405 22
R5406 22
C5427 0.68
L5603 G0B9R5K00001
L5604 G0B9R5K00001
C5425 0.1
C5428 0.1
C5426 0
C5429 0
C5432 220P
C5430 220P
C5431 220P
C5433 220P
C5117 35V470P
C5118 35V470P
L5403 J0JKB0000037
L5402 J0JKB0000037
LO_L
HL_L
R5210 270
C5210 220P
AGND
R5514 0
L5101 J0JKB0000037
L5102 J0JKB0000037
F_HOP
R5201 1K
R5202 100K
C5701 100
R5204 100K
R5203 10K
C5201 470P
AGND
C5202 100P
X5202 H2A375300003
C5203 100P
R5205 100K
W5504 0
Q5201
R5207 6.8K
R5206 1M
Q5202
X5201 H2A415300001
C5208 6.3V680P
C5204 100P
C5205 0.1
R5209 10
IC5201 C0JBAB000011 LOGIC
1A 1Y 2A 2Y 3A 3Y GND
VCC 6A 6Y 5A 5Y 4A 4Y
Q5201 B1ABCF000176 FREQUENCY HOPPING SWITCH
Q5202 B1ADCF000063 FREQUENCY HOPPING SWITCH
R5112 47K
R5113 47K
W5555 0
R5317 10K
C5434 0.015
C5334 0.015
L5601 G0B9R5K00001
C5438 0.015
C5335 0.015
C5435 0.015
L5602 G0B9R5K00001
C5343 0.015
-L_LOW
+L_LOW
-L_HIGH
+L_HIGH
JK5102
SPEAKER
+ R_HIGH
+ R_LOW
- R_HIGH
- R_LOW
JK5101
Q5103,Q5104 B1ABCF000176 FAN ON/OFF SWITCH
Q5104
Q5103
R5413 100K
R5313 150K
R5312 56K
R5412 220K
C5105 10V220
R5111 100K
C5155 1000P
R5417 10K
D5126 B0ACCK000005
R5518 10K
R5150 220K
F_HOP
T_GND
MODE
+15V
HI_L
HI_R
A_GND
LO_L
LO_R
A GND
FAN
CN5102
TO B MAIN CIRCUIT (CN2809) ON SCHEMATIC DIAGRAM-3
PGND
FLGND
DGND
PCONT
CD8V
NC
DC_DET
MF_HOP
12V
15V
-3V
SW5V
CN5103
TO B MAIN CIRCUIT (CN2808) ON SCHEMATIC DIAGRAM-3
R5151 150K
Q5111 B1BACG000023 +15V REGULATOR
R5147 2.2
R5123 4.7
C5157 0.01
R5126 1K
R5127 470
D5152 B0BA01900005
C5109 25V100
C5110 25V100
D5107 B0BA01500003
R5152 0
E5102 K4CZ01000027
Q5101
D5101 B0BA01100004
C5114 0.1
C5102 100V10
D5122 B0EAKM000122
C5103 100V10
E5101 K4CZ01000027
C5107 0.1
C5187 0.1
C5171 50V1000
+VCC1
+VCC2
-VCC1
-VCC2
AC GND
AC GND
ACIN
SUB+B
DGND
H5104/W5104
TO D TRANSFORMER CIRCUIT (CN5950) ON SCHEMATC DIAGRAM-5
C5101 35V1000P
C5151 100P
R5103 10K
D5121 B0EAKM000122
Q5110
R5101 10K
R5114 1.8
D5102 B0BA02600018
C5186 0.1
C5106 0.1
W5501 0
C5172 50V1000
E5103 K4CZ01000027
K5101 B0EAKM000122
D5129 B0EAKM000122
Q5113 B1GDCFNA0001 CURRENT LIMITER SWITCH
Q5112 B1BCCG000002 CURRENT STABLISER
R5137 2.2
R5136 2.2
R5135 2.2
D5125 B0AACK000004
C5159 0.01
R5133 10K
Q5113
Q5114
W5508 0
R5134 1.2K
R5132 330
C5113 50V33
D5109 B0BA01100004
Q5114 B1ABCF000176 11V REGULATOR
Q5110 B1AACF000064 26V REGULATOR
Q5101,Q5102 B1DEGM000026 CURRENT CONTROL SWITCH
Q5108 B1ABCF000176 SWITCH
Q5102
C5104 35V1000P
C5153 100P
D5105 B0BA02400029
R5108 47
D5104
B0BA01100004
R5107 560
R5106 22K
Q5108
C5152 0.1
C5115 0.1
R5109 1K
Q5109 2SB0709AHL VOLTAGE REGULATOR
R5105 10K
W5009 0
R5110 2.2K
D5103 B0BA3R900006
Q5115 B1AAKD000014 5.7 REGULATOR
R5144 12
D5128
D5124
D5123
D5128,D5124,D5123 B0EAKM000122
C5111 6.3V100
C5158 0.01
R5131 2.2K
R5130 150
C5112 25V10
D5108 B0BA5R700008
2/2
SA-AK340EE POWER CIRCUIT

17.8. (F) Deck Circuit & (G) Deck Mechanism Circuit

SCHEMATIC DIAGRAM - 7



20 Terminal Function of IC's

20.1. IC7001 (MN6627954MA) Servo Processor,Digital Signal Processor/Digital filter and D/A Converter

Pin No.	Mark	I/O	Function
1	A11	O	DRAM address signal O/P 11
2	A9	O	DRAM address signal O/P 9
3	A8	O	DRAM address signal O/P 8
4	A7	O	DRAM address signal O/P 7
5	A6	O	DRAM address signal O/P 6
6	A5	O	DRAM address signal O/P 5
7	A4	O	DRAM address signal O/P 4
8	NWE	O	Write Enable Signal (DRAM)
9	NCAS	O	DRAM CAS Control Signal
10	NRAS	O	DRAM ARS Control Signal
11	A3	O	DRAM address Signal O/P 3
12	A2	O	DRAM address Signal O/P 2
13	A1	O	DRAM address Signal O/P 1
14	A0	O	DRAM address Signal O/P 0
15	A10	O	DRAM address Signal O/P 10
16	BA0	N.C.	Motor O/P (0);/Serial I/P
17	BA1	N.C.	Motor O/P (1);/Serial I/P
18	PRAMVSS33	-	GND (DRAM)
19	PRAMVDD15	-	Power Supply Voltage (DRAM)
20	PRAMVDD33	-	Power Supply Voltage (+1.6V)
21	SPOUT	O	Spindle Drive O/P
22	PC	I/O	Spindle motor drive O/P signal serial data/Monitoring I/P
23	TRVP	O	Traverse Drive O/P (+ve)
24	TRP	O	Tracking Drive O/P (+ve)
25	FOP	O	Focusing Drive O/P (+ve)
26	DVSS1	-	GND
27	IOVDD2	I	Digital Power Supply Voltage 2 (I/O)
28	DVDD1	-	Digital Power Supply Voltage 1 (Built-In)
29	SRVMON0	N.C.	Servo Monitor (0) O/P
30	SRVMON1	N.C.	Servo Monitor (1) O/P
31	AVSS2	-	GND
32	OSCIN	I	Oscillating Input
33	CTRCRS	N.C.	Tracking Cross Comparator
34	VREF	-	+Vref Supply Voltage
35	E	I	Tracking Input Signal 1
36	F	I	Tracking Input Signal 2
37	D	I	Focusing Input Signal 4
38	B	I	Focusing Input Signal 2
39	C	I	Focusing Input Signal 3
40	A	I	Focusing Input Signal 1
41	PD	I	APC Amp I/P
42	LD	O	Laser Drive Current O/P
43	CENV	I	Detection Capacitance Connection terminal
44	RFENV	O	RF Envelope O/P
45	RFOUT	O	RF Summing Amp O/P
46	RFIN	I	SGC I/P
47	AVDD2	I	Analog Power Supply voltage 2 (For DSL/PLL)
48	ARFDC	O	AGC Capacitive Connection Terminal
49	ARFOUT	O	AGC Output
50	ARFFB	I	ARF Feedback Signal I/P
51	ARFIN	I	Audio RF Signal I/P
52	DSLF	I	Loop Filter Terminal (For DSL)

Pin No.	Mark	I/O	Function
53	IREF	I	Reference I/P
54	PLLF	I	PLL Loop Filter Terminal (Phase Compare)
55	PLLF0	O	PLL Loop Filter Terminal (Speed Compare)
56	OUTL	O	Audio O/P (LCH)
57	AVSS1	-	GND
58	AVDD1	I	Analog Power Supply Voltage 1
59	OUTR	O	Audio O/P (RCH)
60	DVSS3	-	GND3 (Digital Circuit)
61	NSRVMONON	I	Servo Motor O/P Enabling
62	EXT0	N.C.	Expansion O/P Port 0
63	EXT1	N.C.	Expansion O/P Port 1
64	EXT2	N.C.	Expansion O/P Port 2
65	FLAG	N.C.	Flag Signal O/P
66	TX	N.C.	Digital Audio Interface O/P signal
67	MCLK	I	Micro-Computer Command Clock I/P
68	MDATA	I	Micro-Computer Data I/P
69	MLD	I	Micro-Computer Load I/P
70	STAT	O	Status Signal O/P
71	BLKCK	O	Subcode Blk Clock
72	NRST	O	LSI Reset Signal
73	DQSYTXT	N.C.	Pack Signal O/P for CD-Text data
74	SMCK	N.C.	Micro-Computer Clock O/P
75	PMCK	N.C.	IOCNT Serial data O/P (Synchronous O/P)
76	DVDD2	-	Digital Power Supply Voltage 2 (+1.5V)
77	IOVDD1	-	Digital Power Supply Voltage 1 (For I/O)
78	DVSS2	-	GND2 (For Digital Circuit)
79	NTEST2	I	Test Mode Setting (ON:H)
80	X2	O	Crystal Oscillating Circuit O/P
81	X1	I	Crystal Oscillating Circuit I/P
82	NTEST	I	Test Mode Setting I/P (ON:H)
83	D2	I/O	Data Signal O/P 2
84	D1	I/O	Data Signal O/P 1
85	D0	I/O	Data Signal O/P 0
86	D3	I/O	Data Signal O/P 3
87	D4	I/O	Data Signal O/P 4
88	D5	I/O	Data Signal O/P 5
89	D6	I/O	Data Signal O/P 6
90	D7	I/O	Data Signal O/P 7
91	D15	I/O	Data Signal O/P 15
92	D14	I/O	Data Signal O/P 14
93	DRVDD	I	I/O Power Supply Voltage (DRAM)
94	D13	I/O	Data Signal O/P 13
95	D12	I/O	Data Signal O/P 12
96	D11	I/O	Data Signal O/P 11
97	D10	I/O	Data Signal O/P 10
98	D9	I/O	Data Signal O/P 9
99	D8	I/O	Data Signal O/P 8
100	SDRCK	O	Clock Signal O/P

20.2. IC7002 (BA5948FPE2) IC 4CH Drive

Pin No.	Mark	I/O	Function
1	IN2	I	Motor Driver 92 Input
2	PC2	I	Turntable Motor Drive Signal ("L":ON)
3	IN1	I	Motor Drive (1) Input
4	PC1	-	Traverse Motor Drive Signal ("L"): ON)
5-8	N.C.	-	No Connection
9	PGND1	-	Ground Connection (1) for Drive
10	PVCC1	I	Power Supply (1) for Drive
11	D1-	O	Motor Drive (1) reverse - action output
12	D1+	O	Motor Drive (1) forward - action output
13	D2-	O	Motor Drive (2) reverse - action output
14	D2+	O	Motor Drive (2) forward - action output
15	D3-	O	Motor Drive (3) reverse - action output
16	D3+	O	Motor Drive (3) forward - action output
17	D4-	O	Motor Drive (4) reverse - action output
18	D4+	O	Motor Drive (4) forward - action output
19	PVCC2	-	Power Supply (2) for Driver
20	PGND2	-	Ground Connection (2) for Driver
21-24	N.C.	O	No Connection
25	VCC	I	Power Supply terminal
26	VREF	I	Reference Voltage Input
27	IN4	I	Motor Driver (4) Input
28	IN3	I	Motor Driver (3) Input

20.3. IC2801 (C2CBYY000053) System Microprocessor

Pin No.	Mark	I/O	Function
1	LM_1	-	Level Meter
2	PA_LVL	-	No Connection
3	PLLCE	O	PLL Chip Select
4	RDS_DA	I	RDS Data Input
5	RDS_CLK	I	RDS Clock Input
6	MODE_A	-	No Connection
7	F_Hop	O	F_Hop for Digital Amp
8	BYTE	-	External Data Bus Width Select Input (Connect to Ground)
9	CNVSS	-	Flash Mode Terminal (Connect to Ground)
10	XC_IN	-	32.768 kHz Sub Clock
11	XC_OUT	-	32.768 kHz Sub Clock
12	/RESET	-	Reset Input (ACTIVE L)
13	X_OUT	-	10 MHz Main Clock
14	VSS	-	Ground (0V)
15	XIN	-	10 MHz Main Clock
16	VCC	-	Power Supply (+5V)
17	/NMI	-	Connect to Vcc (+5V)
18	RMT	I	Remote Control Input
19	BLKCK	I	CD Block Clock Input (Inverted)
20	SYNC	I	AC Failure Detect Input
21	ST/DO	I	Tuner IF Data/ Stereo Input
22	SD	I	Tuner Signal Detect Input
23	N.C.	-	No Connection
24	SW_LV-1	O	Sub-Woofer Level 1
25	SW_LV-2	O	Sub-Woofer Level 2
26	ASP_DA	O	ASP DATA
27	ASP_CLK	O	ASP CLOCK
28	10DB_ATT	O	No Connection
29	PLL_DAT	O	PLL DATA
30	PLL_CLK	O	PLLCLK
31	REG8	-	To GND resistor
32	REG7	I	Region Setting 7 (MIC)/Flash Rx
33	REG6	I	Region Setting 6 (RDS)/Flash Clock
34	REG5	O	Chip Select/Flash Busy
35	REG4	I	Latin Non Chip Select
36	REG3	I	Region Setting 3 (Tuner)
37	REG2	I	Region Setting 2 (Tuner)
38	REG1	I	Region Setting 1 (Tuner)
39	MUTE_DA	O	Mute_DA for Digital Amp
40	MUTE_A	O	Audio Mute
41	EE_CS/EFP/EPH	O	EEPROM Chip Select
42	EE_CLK	O	EEPROM CLOCK
43	EE_DAT	I/O	EEPROM DATA
44	N.C.	-	No Connection
45	N.C.	-	No Connection
46	PCONT/EFP/CS	O	Main Transformer Control Output
47	DCDET	I	DC Detect Input
48-49	N.C.	-	No Connection
50	STANDBY	O	Standby mode
51	N.C.	-	No Connection
52	HALF_1	I	Deck 1 HALF PLAYBACK INPUT
53	MODE_1	I	Deck 1 MODE PLYABACK INPUT
54	N.C.	-	No Connection
55	N.C.	-	No Connection
56	PLG1	O	Deck 1 plunger control
57	PLG2	O	Deck 2 plunger control
58	MTR	O/I	Deck motor control ("L" for motor ON)
59	REC	O/I	L when record circuit is operating
60	DECK1_H	O	H when DECK 1 P/B head is selected
61	N.C.	-	No Connection
62	VCC	-	Power Supply (+5V)
63	N.C.	-	No Connection
64	VSS	-	Ground (0V)
65	SW_LED	O	SUB WOOFER LED
66	VOL_LED	O	VOLUME_LED
67	V_JOG_A	I	Volume Jog A
68	V_JOG_B	I	Volume Jog B
69	FL_RESET	O	FL Driver reset
70	FL_CS	I/O	FL Driver Chip Select
71	FL_DOUT	O	Serial Data To FL Driver
72	FL_CLK	I/O	Serial Clock To FL Driver
73	H.BASS_LED	O	H.BASS LED
74	CD_RST	O	CD Reset Output
75	STATUS	I	CD Servo LSI Status Input
76	MLD	O	CD Command Load Output
77	MDATA	O	CD Command Data Output
78	MCLK	O	CD Command Clock Output
79	/RESTSW	I	CD Limit Switch Input for the most Inner Point (Active Low)
80	HOME_SW	I	Home Switch for CRS1
81	SPEED	O	SPEED is For CRS1 (cater)
82	CLOSE_SW	I	CLOSE SW is for CRS1

Pin No.	Mark	I/O	Function
83	OPEN_SW	I	Open_Sw for CRS1
84	CHG_CW	O	CRS1 motor CW
85	CHG_CCW	O	CRS1 motor CCW
86	ST_SW	I	Stock_Sw for CRS1
87	PLAY_SW	I	Play_Sw for CRS1
88	CHG_PLR	O	Plunger for CRS1
89	BOTTOM_SW	I	Bottom_SW for CRS1
90	UP_SENSOR	I	UD-Sensor for CRS1
91	DECK2	I	DECK CONDITION INPUT 2 (R_INHF/MODE2/HALF2)
92	KEY3	I	KEY3 INPUT
93	KEY2	I	KEY2 INPUT
94	KEY1	I	KEY1 INPUT
95	PHOTO_2	I	Rotation Detection Signal (Deck 2)
96	AVSS	-	Analog Power Supply Input (Connect to GND)
97	PHOTO_1	I	Rotation Detection Signal (Deck 1)
98	VREF	-	Reference for A-D (5V)
99	AVCC	-	Analog Power Supply Input
100	DEMO	I	(H= default demo on, L= default demo off.)